

### Recommendations of IWG PSG regarding the CPA

According to the discussion in the IWG PSG, the current situation of Panoramic Sunroof Glazing (PSG) breaking is the following:

1. PSG breakage could be due to several factors, none of which could be identified as the single possible source: one-time manufacturing or human errors, vehicle and/or roof system design flaws, miss-assemblies or a massive sudden local loadcase due to an impact with a sharp, hard and large indenter of high impulse.

Gelöscht: is

Gelöscht: a

Gelöscht: or a systematic failure risk

2. The PSG breaking itself does not usually cause serious injuries to the occupants of the vehicle, but further accidents with more severe consequences may occur as a result of the breakage.

3. It is assumed in general that a Ceramic Printed Area (CPA) could reduce the mechanical strength of safety glazing. However, scientific findings on this are currently unavailable and will not be available in the foreseeable future.

Gelöscht: weaken

4. Among the possibilities explaining an increase in the number of breaking glazing with CPA are a more accurate monitoring and higher use of CPAs.

Gelöscht: A

Gelöscht: can be attributed to

5. The development of new enamels which do not affect the mechanical strength of the safety glass might reduce the probability of breakages. However, these are currently not in the required quality and quantity to meet the specifications and general needs of vehicle manufacturers.

Gelöscht: Better

Gelöscht: could

Gelöscht: improve the situation

Gelöscht: for

6. An adaptation of the technical requirements should be based only on scientific knowledge. The research required for this will take 5 to 10 years to produce insights into the adaptation of the 227g ball test, the CPA and possible connecting issues between both aspects.

The IWG PSG therefore recommends:

- to the GRSG to revise the technical requirements solely based on scientific outcome of researches that need to be done,
- to the members of GRSG to conduct appropriate research programs,
- to the GRSG to monitor the related research activities,
- to the GRSG to monitor the progress on the availability of better enamels,
- to the GRSG to reactivate the IWG PSG as soon as the above-mentioned monitoring shows sufficient progress to continue to update the technical requirements
- to vehicle manufacturers to use the CPA not for optical aspects and design and
- to vehicle manufacturers to limit the CPA to a minimum necessary for installation purposes.